

CLAIMS

1. Device (1) for the injection moulding of articles (25) comprising several plastic material components, with a first half-mould (3) arranged as fixed, with a second half-mould (6) for the purpose of opening and closing the device (1) arranged as movable relative to the first half-mould (3), and at least two further half-moulds (10, 11) arranged to be jointly movable relative to the first and the second half-moulds (3, 6), the further half-moulds (10,11) in closing position of the device (1) being arranged between the first and the second half-moulds (3, 6) in such a manner, that in two parting planes (32, 33), namely in a first and in a second parting plane (32, 33), cavities (20, 21) are formed, **characterised in** that the two further half-moulds (10, 11) arranged to be jointly movable comprise means (22), which with the device (1) opened serve to transport an article (25) out of a first cavity (21.1) into a second cavity (21.2) in such a manner, that the article (25) is capable of being injection moulded around with a further material component in the second cavity (21.2).
2. Device (1) in accordance with claim 1, **characterised in** that the means (22) is a slide (22).
3. Device (1) according to one of the preceding claims, **characterised in** that the means (22) is integrated into a cavity (20, 21).
4. Device (1) in accordance with one of the preceding claims, **characterised in** that a mould carrier (7) is present, which is supported on a bearing capable of being around an axis (A) and arranged to be displaceable at an angle relative to this axis, and which serves to receive and to jointly move the two further half-moulds (10, 11) in such a manner, that the two further half-moulds (10, 11) with the device (1) opened by rotation of the mould carrier (7) around the axis (A) for the purpose of forming cavities (20, 21) are capable of being brought into the working position alternatingly with the first or with the second half-moulds (3, 6).
5. Device (1) according to claim 4, **characterised in** that the mould carrier (7) is displaceable by 180° around the axis (A) at a right angle to it.

6. Device (1) in accordance with claim 5, **characterised in** that the mould carrier (7) is respectively supported on two sides by a cross-head (8) in the manner of a bearing, in such a way, that the mould carrier (7) with the device (1) opened is capable of being rotated around the axis (A) and jointly movable with the cross-heads (8).
- 5 7. Device (1) according to claim 6, **characterised in** that the cross-heads (8) are guided on spars (4).
8. Device (1) in accordance with claim 7, **characterised in** that the cross-heads (8) for the purpose of installing and removing the mould carrier (7) and/or the further half-moulds (10, 11) are displaceable independently of one another.
- 10 9. Device (1) according to one of the claims 7 or 8, **characterised in** that the spars (4) serve for guiding the second, movable half-mould (6).
- 15 10. Method for the injection moulding of an article made of several plastic material components, in the case of which in a first step in a working position of a device (1) a first liquid plastic material is injected into a first cavity (20, 21.1) in the zone of a first parting plane (32) of the device (1) for the moulding of an article (25), in a second step the article (25) made of the first plastic material with the device (1) opened in the zone of the first parting plane (32) is brought out of the first cavity (20, 21.1) into a second cavity (20, 21.2) in the zone of a second parting plane (33) situated at a distance relative to the first parting plane (32), where in a third step it is injection moulded around with a further plastic material component in the working position of the device (1).
- 20 11. Method according to claim 10, **characterised in** that, while in the second cavity (20, 21.2) the article (25) is being injected around with the further plastic material component, simultaneously in the first cavity (20, 21.1) a further article (25) is being injection moulded.

12. Method in accordance with one of the claims 10 or 11, **characterised in** that the article (25) during the transfer into the second cavity (20, 21.1) is rotated around an axis (A) and laterally displaced (34.1, 34.2, 34.3).
- 5 13. Method according to one of the claims 10 to 12, **characterised in** that the first cavity (20, 21.1) is formed by a first half-mould (3) and alternatingly by one of at least two further half-moulds (10, 11), which are jointly arranged to be capable of being rotated relative to the first half-mould (3) around an axis (A) and displaceable in parallel to it and that the second cavity (20, 21.2) is formed by a further half-mould (6) opposite the first and the two half-moulds (10, 11), which are jointly capable of being rotated around an axis and is alternatingly formed by one of
10 these two half-moulds.